Welcome to your new SKIPPER Product

Congratulations with your Jotron SKIPPER 10.1 inch Control Unit.

This Package is factory configured for the following product

Part Number	Product Name	This product (if checked)
EML1200-SA	EML1200 Control Unit for Dual Axis Electromagnetic STW Speedlog	
EML1100-SA	EML1100 Dual Axis Electromagnetic STW Speedlog	
CU-M101-SA	CU-M101-SA Dual Control Unit	

Your Package contains

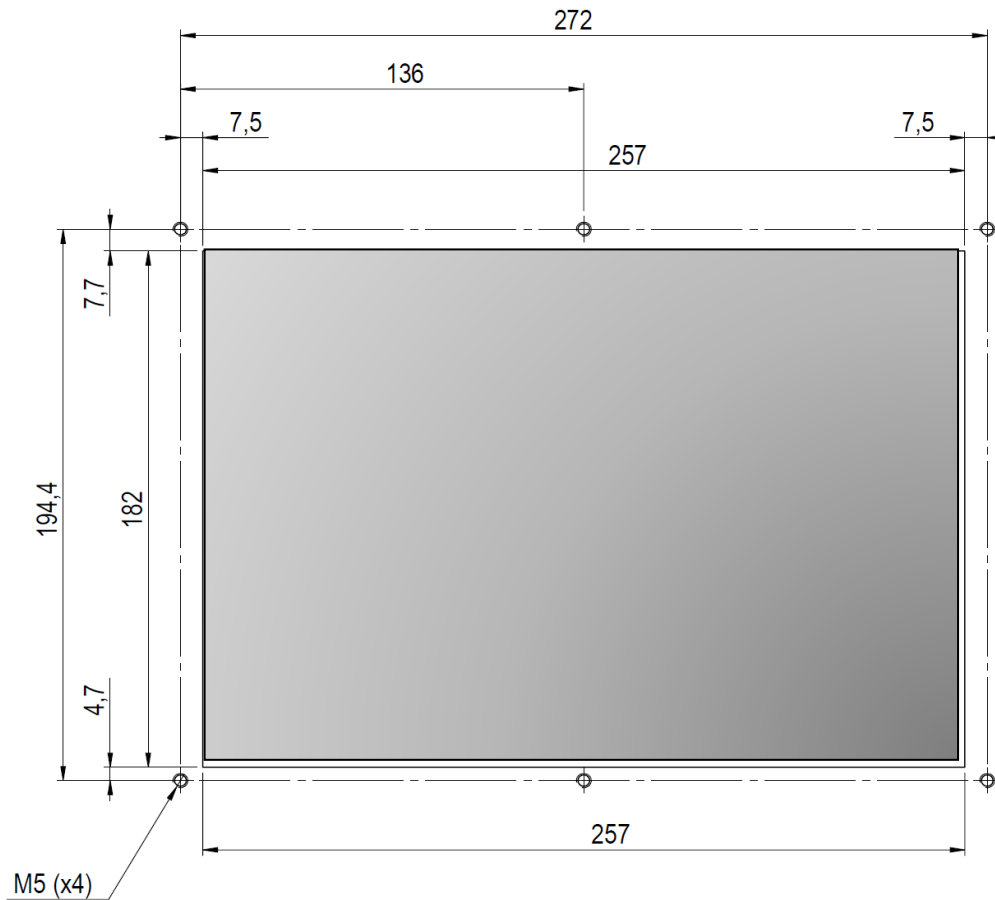| Qty	Part	Description	Photo
1	**CU-M101-SA**	10.1" Control unit	
1	**M-KIT-CU-M101**	Mounting kit	
1	**M-KIT-XBEEP**	External beeper kit	
1	**DM-I001**	Getting started instruction	This document
1	**DM-E004-SA or DM-D020**	User manual for EML or DL	

This getting started guide Follows:
1 Install/Mount the system
2 Define the System (CU-M101-SA only)
3 Configure the system (All systems)
4 Check your system
These instructions are also available in mobile format by scanning here

1. Install/Mount the system

Make a cutout of size 257x 182 in an area of minimum 287x210mm

272

136

7,5

257

7,5

194,4

7,7

182

4,7

257

M5 (x4)

6 x M5 torx Pan head Screws (ISO 14583) Black
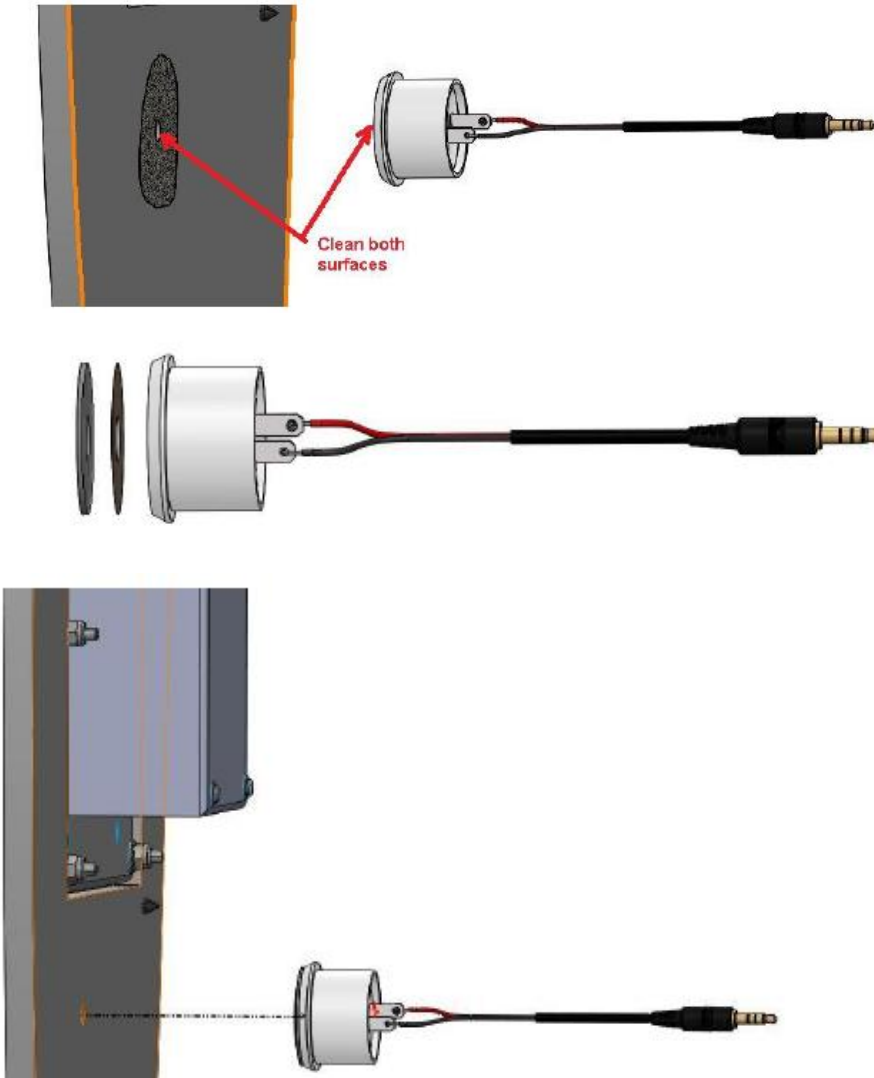
Length 21.8mm , Thread into the back plate 16.5 mm

Alternative

6 x Self tapping screw for wood, plastic & non-ferrous Metal (Requires Pilot Hole
Depending on the screw type to be usede Thread the bench plate , Use Nuts (M5) or drill a pilot hole of 3mm

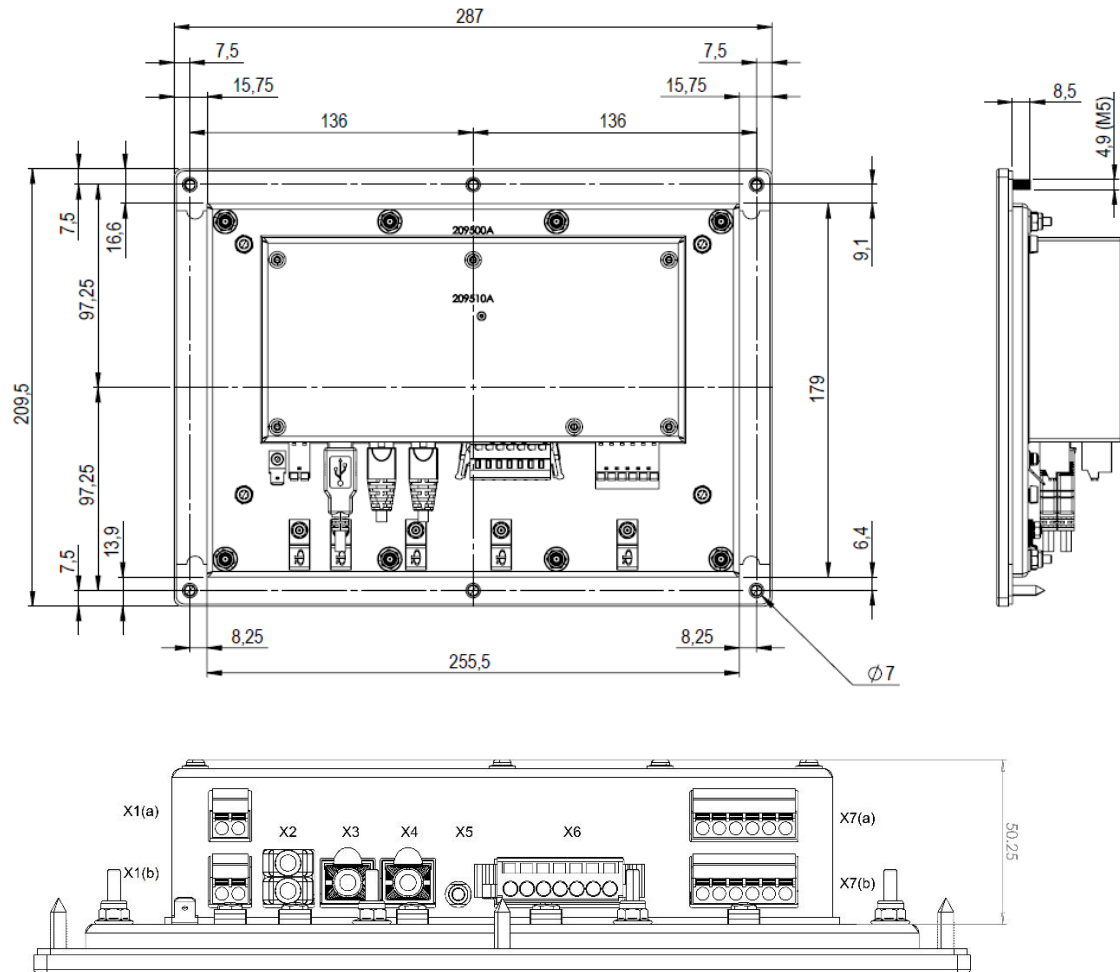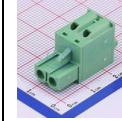|		M-KIT-XBEEP-CU-M101-SA
## Mount the External beeper (if required)	Drill a hole diameter 6.5-7.0mm Clean both surfaces with attached wipe Attach the Sticker to the Buzzer Attah to the rear of the plate , take care to align the holes.	

Attach the IO connectors as required (4.2 in manual)

287
7,5 — 7,5
15,75 — 15,75
136 — 136
8,5
4,9 (M5)
7,5
16,6
97,25
209,5
9,1
179
209500A
209510A
97,25
13,9
7,5
6,4
8,25 — 8,25
255,5
Ø7

X1(a)
X1(b)
X2 X3 X4 X5 X6
X7(a)
X7(b)
50,25

see connection diagram on next page

X1a and X1b 24VDC Power connector
(Degson 2EDGKD-5.08-02P-14-00A(H)

X2 USB Type A (Non isolated)
Use Isolator GC-202-SA for long term USB installations

X3 & X4 RJ45 CAT 6 Cables
Connect to a managed switch or CU-M101-SA unit

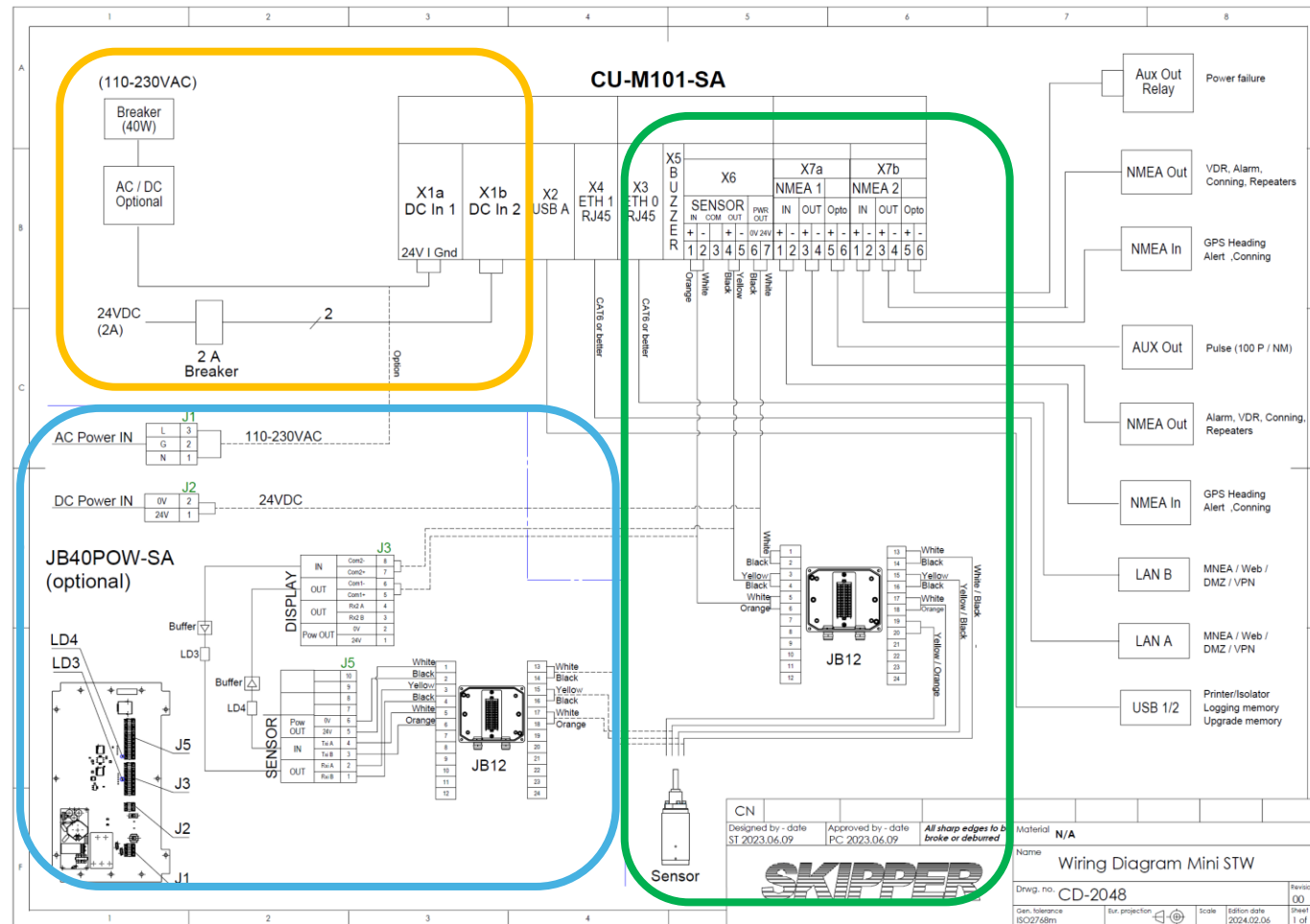*X5 M-KIT-CU-XBEEP-00 External Alarm Beeper*
3mm mono Jack

X6 Sensor Port
Wago Connector 231-304/026-000
8 Pins

X7-X8 NMEA/ Aux Port
Degson 2EDGRH-5.08-12P-14-00A(H)

Connection of the System (4.2 in manual)

Wiring Diagram Mini STW — CD-2048, Rev 00, Sheet 1 of 1. Designed by ST 2023.06.09, Approved by PC 2023.06.09. SKIPPER.

Attach the power connector(s)
Power stability is required.
This is acheived using either
- A secondary power. either 2 24VDC connectors
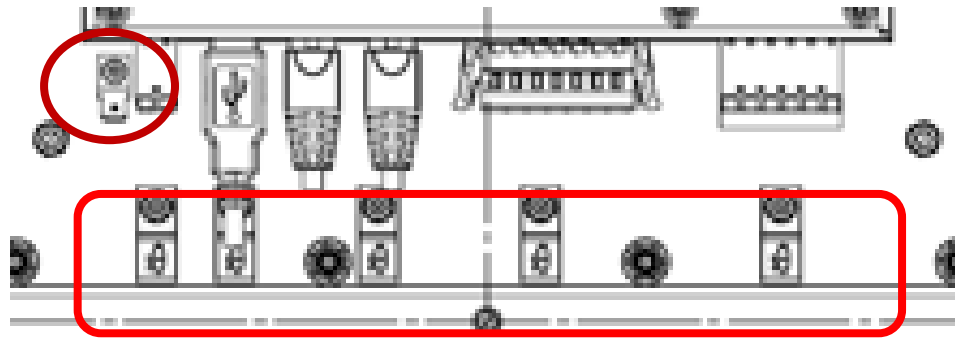- by using a UPS as a failsafe

The system requires <20W and Power to the system and the connected JB40 unit (if used should come from a 2A circuit breaker.

Attach the sensor directly

or via a JB40POW unit

If the JB40POW-SA is used locally, AC input to this can generate 24VDC to power the display and the sensor.

In this case disable the Power output in the display System setup menus.

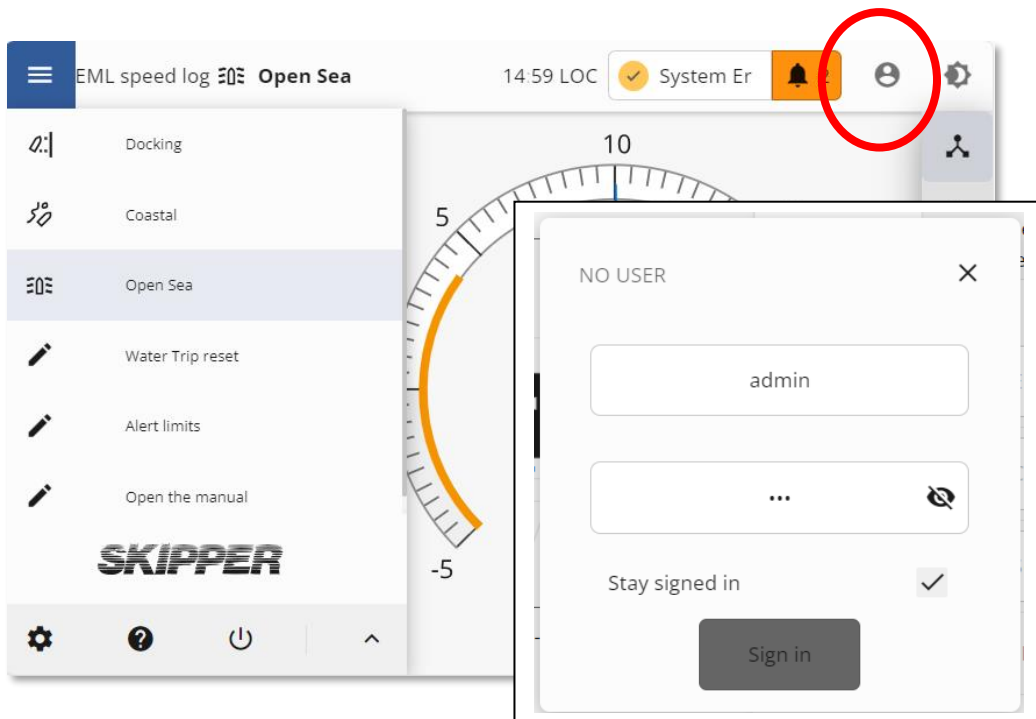|		
## Mount the unit (4.2 in manual) 	Anchor the cables, using the included cable ties Ground The Unit to ships Chassis using the Grounding spade.	M-KIT-

Note the serial number of the unit and mount the unit in place

Serial Number: _____ (6 digits)

Power on and setup (CU-M101-SA, systems not set up at factory)	
Turn on the power(s)	
Select the Required Product	If the screen shown is not this, **go to 3 Setup the System** Enter the serial number (with all leading zeros, 6 digits '000234') go to the define system Click on the QR code, if a Product option is purchased, the code will be available here, If no code is available contact Jotron SKIPPER to purchase the required Product code.
Ensure Software is installed or download	If the product option is not shown on the product drop down, Download from the SKIPPER web, and place on a USB stick. Insert the stick. Select the USB media, and try again.
Assign a system with the option code	Enter the code, and press install. Installation takes about 3 minutes, and the system will boot into the desired software.

Set up the system

Sign in

Click on the Users Button
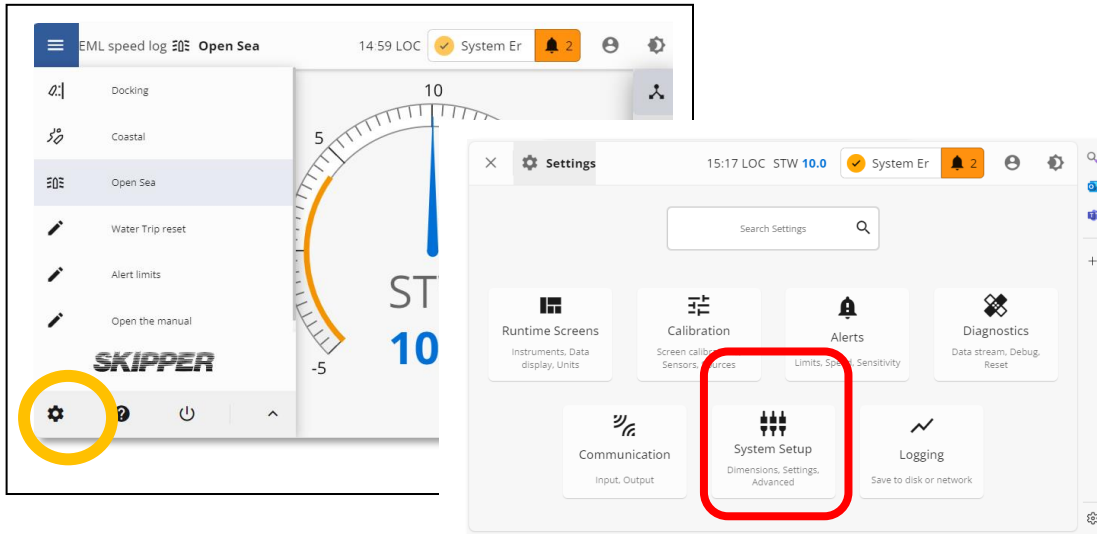
Enter User 'admin' and Password <serial number> e.g 1234

Check 'Stay Signed in'
And Press sign in.

The system signs in with full access.

(Note, Passwords and users should be changed before HAT/SAT)

Configure the system
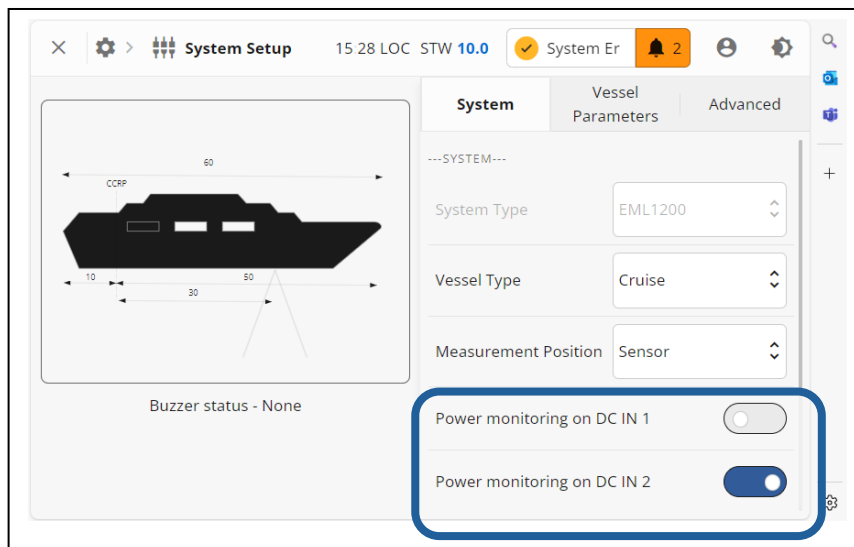

Using the Menu button (top left) select settings setup in the menu dropdown

Go to system and enter the vessels parameters.
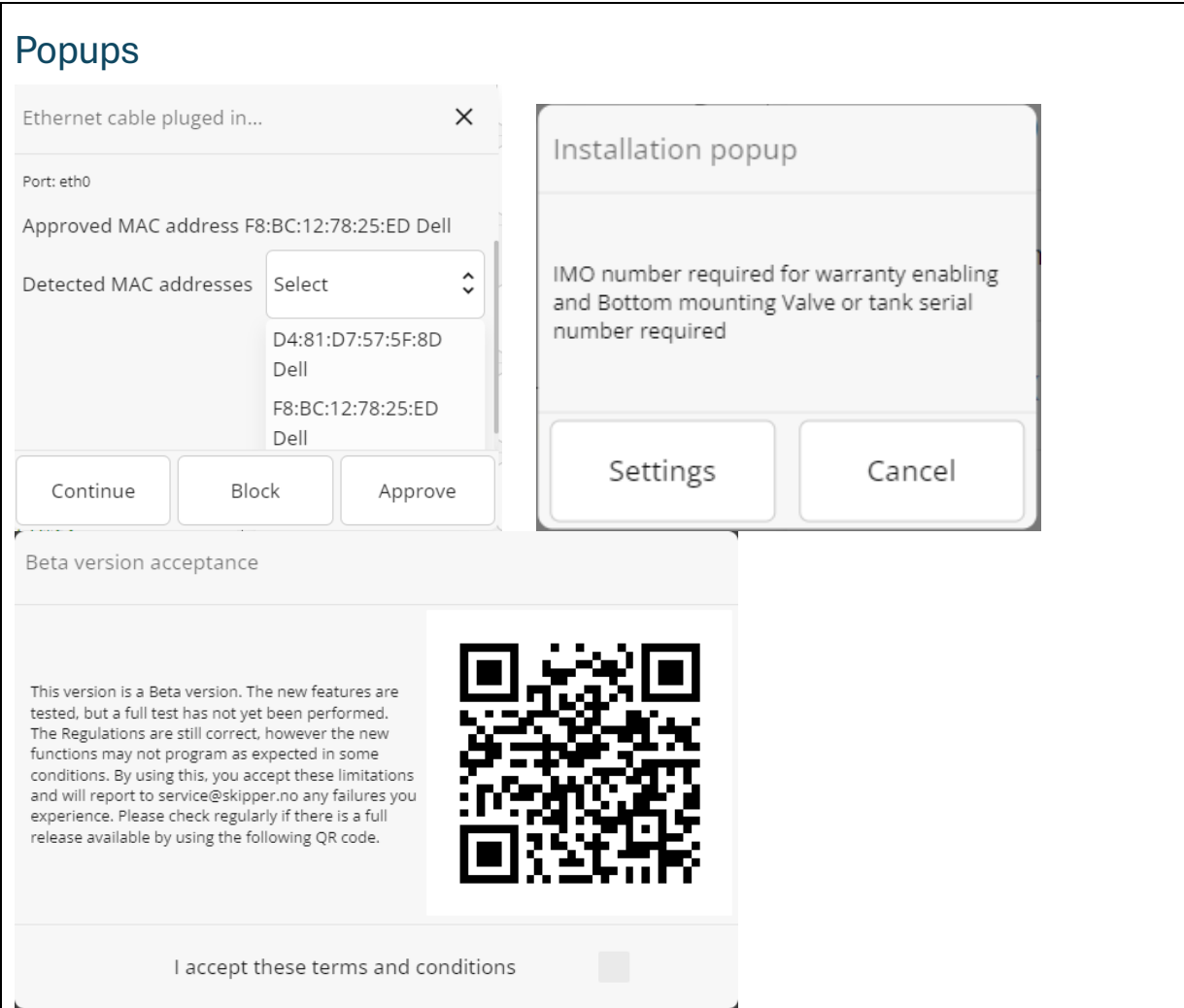
If you use only one power input, disable the unused one.

If you supply power to the sensor from another unit (JB40POW) disable the sensor Power. (Advanced tab)

System	Vessel Parameters	Advanced

---VESSEL PARAMETERS---

Max Speed (kn)	−	25 kn	+
Sensor to CCRP (m)	30.0
Bow to CCRP (m)	50.0
Stern to CCRP (m)	10.0
Vessel Tonnage (GRT)	50000.0

---REGISTRATION---

Vessel Identifier IMO (required), New Build or Vessel name	IMO123456
Sensor Mounting Enter the sensor type, and the tank/valve Serial number.	EML224SG-Valve
Bottom mounting serial number The number stamped into the valve or tank	123

System	Vessel Parameters	Advanced

---ADVANCED---

Filter Type	Normal
Reverse for 2 direction ferries	(toggle off)
Activate option 2dp option to use 2 decimal places	(toggle off)
Disable sensor power output Sensor is powered from another source (JB40POW)	(toggle off)
Buzzer Option	Off

In addition add vessel parameters, IMO number, Bottom sensor type and Bottom equipment Serial number (If these are not enterd you will get reminders on startup or exit of the system setup screen)

Popups

Ethernet cable pluged in...   ✕

Port: eth0

Approved MAC address F8:BC:12:78:25:ED Dell

Detected MAC addresses | Select   ⌄ |

D4:81:D7:57:5F:8D Dell

F8:BC:12:78:25:ED Dell

| Continue | Block | Approve |

Installation popup

IMO number required for warranty enabling and Bottom mounting Valve or tank serial number required

| Settings | Cancel |

Beta version acceptance

This version is a Beta version. The new features are tested, but a full test has not yet been performed. The Regulations are still correct, however the new functions may not program as expected in some conditions. By using this, you accept these limitations and will report to service@skipper.no any failures you experience. Please check regularly if there is a full release available by using the following QR code.

I accept these terms and conditions   ☐

Popups on startup.
You may get the following:
Beta Version approval – Accept terms and close the popup (Check for updates using QR code)

Foreign network – Select a safe point in the network to allow the system to detect unauthorized cable being plugged into the system, Approve this. (one for each Network port)

IMO number – This system registers the vessels IMO number or Vessel name, for service purposes.

Bottom equipment – Follow the link to enter the Sensor type in use, and the bottom equipment (valve or Tank number serial number)

Input/ output

Serial
In Communications setup, Configure the IO as required.
Select the outputs required, and the Baud rate for the 2 serial ports (NMEA/IEC61162-1)

Ethernet
2 Ethernet ports using IEC61162-450 and supporting IEC-61162-460

Network is Blocked on startup,
Select a safe IP address on your networks (usually router or switch) and register this using the popup or Approved Network MAC
This is to ensure foreign networks are detected. Networks should have different subnets.
Select an IP is the networks subnet, different subnets for each port.

If both ports are to be used in the same subnet (switch) activate Bridge Mode (Admin only) In this case ETH0 Will define the IP/ Subnet

Aux output function (Connector X6) can be selected here

Alerts

The system has alerts, these are not obligatory in most installations (check class regulations)

These can be disabled, or they can be given different categories. (Off, Caution, Warning, W+Escalation)

Connect the CAM/BAM system by defining the Alert group

Connect to the CAM/BAM SFI.

Alternatively connect to the NMEA input and output.

Activate the IO that will communicate with the Alarm system

Power failure can also be detected using one of the Aux output 2 (relay)

Test the alerts, using the Test Alerts button in Diagnostics page (See HAT, next section)

Harbour Acceptance Test (HAT)

To show or prove the system works you can do the following:

1. Test Sensor display
Set a speed and Run a fixed speed simulation ' Simulate speed'

2. Software
Check the system is updated to the latest software, if not, download from www.skipper.no to a USB, and perform upgrade.

3. Test IO
Look at Connected systems, Conning/BAM/VDR/Repeaters, and check the correct formats are coming, alternatively, check the communications terminal input and output.
Check the desired inputs are connected. Usually
- GPS (strongly recommended)
Heading (recommended)

4. Test Alerts
Use the Simulate alarms to trigger all the active alarms, use the BAM to remotely acknowledge.

5. Self test
Run the self test for an internal check of the system

Self Test

Self Test

SELF-TEST INFO				✕
TEST NUMBER	**TEST PERFORMED**	**RESULTS**	**LIMIT**	**STATUS**
1	CPU Load	9.55 %	70.00 %	PASS
2	RAM Usage	28.95 %	90.00 %	PASS
3	ETH0 Load	0.06 Mb/s	50.00 Mb/s	PASS
4	ETH1 Load	0.00 Mb/s	50.00 Mb/s	PASS
5	DCIN 1	0.00 V	18-31 V	FAIL
6	DCIN 2	24.26 V	18-31 V	PASS
7	Sensor Voltage	24.06 V	18-31 V	PASS
8	Sensor Current	0.00 mA	10-200 mA	FAIL
9	Calibration Stability	8.51 kn	3.00 kn	FAIL
10	Sensor Stability	0.00 kn	1.00 kn	PASS
11	Cleaning Status	6.97	0.50	GOOD

Self test will test the internal parameters and connections of the system

CPU load
How much the system is doing
RAM useage – How much memory is in use

Ethernet Load
If too high the system may slow down

Sensor output voltage/Current
The sensor is connected correctly* (if not, a system error will also show)

Calibration stability
After calibration and sailing, how much is the calibration wrong over time

Sensor stability,
How much the data jumps from the sensor

Cleaning status.
If the sensor measures much less than the GPS then the system probably needs cleaning